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Objectives of Injury Control, National	NCEHIC	1988; Vol. 37, No. SS-1
Residential Fires, Deaths	NCEHIC	1988; Vol. 37, No. SS-1
Tap Water Scalds	NCEHIC	1988; Vol. 37, No. SS-1
Lead Poisoning, Childhood	NCEHIC	1990; Vol. 39, No. SS-4
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National Infant Mortality (see also Infant Mortality; Birth Defects)	NCCDPHP	1989; Vol. 38, No. SS-3
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Pertussis	NCPS	1992; Vol. 41, No. SS-8
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Behavioral Risk Factor Surveillance, 1991: Monitoring Progress Toward the Nation's Year 2000 Health Objectives

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Abstract

Problem/Condition: Risk reduction is a major focus of the national health objectives for the year 2000. Progress toward several of these objectives can be evaluated by using data from the Behavioral Risk Factor Surveillance System (BRFSS). Year 2000 objective areas measurable by BRFSS data include those for overweight, lack of physical activity, smoking, safety belt use, and medical screening for breast and cervical cancer and elevated blood cholesterol. BRFSS data have been used to guide health promotion/disease prevention programs.

Reporting Period: 1991.

Description of System: BRFSS is a state-based random-digit-dialing telephone survey of noninstitutionalized adults (≥18 years of age); 47 states and the District of Columbia participated in BRFSS in 1991.

Results: Some year 2000 objectives appear to be readily attainable for many states, whereas others do not. For example, among participating states, a median 57.8% (range = 45.6%–82.8%) of women ages ≥50 years reported having had both a clinical breast examination and a mammogram in the previous 2 years (year 2000 objective: ≥60%). In contrast, a median 37.3% (range = 22.1%–52.5%) of persons with annual family income <$20,000 reported that they did not engage in leisure-time physical activity—more than twice the year 2000 objective (≥17%).

Interpretation: BRFSS data demonstrate substantial state-to-state variation in progress toward year 2000 objectives and highlight areas (e.g., lack of leisure-time physical activity) in which substantial progress remains to be made in most states.

Action Taken: The BRFSS will continue to report data that relate to year 2000 health objectives. BRFSS data will enable states to monitor progress toward these objectives and develop health policies aimed at achieving them.

INTRODUCTION

Modifiable high-risk behaviors contribute heavily to morbidity and mortality from noninfectious disease. Similarly, preventive medical practices such as cholesterol screening and mammography can reduce the burden of disease. Reducing the prevalence of high-risk behaviors and increasing the appropriate use of medical screening tests are critical components of the year 2000 national health objectives (*1*).

In 1991, 47 states and the District of Columbia participated in the Behavioral Risk Factor Surveillance System (BRFSS). (For simplicity, the term "states" in this report includes the District of Columbia.) BRFSS provides state-specific estimates for the prevalence of several high-risk behaviors addressed in *Healthy People 2000*, including overweight, physical inactivity, smoking, and safety belt nonuse. The system also provides information on the use of selected medical screening tests, including mammography, clinical breast examination, Papanicolaou (Pap) smear, and blood cholesterol screening. These BRFSS data will help state health departments set priorities and monitor progress toward year 2000 health objectives.

One of the national goals stated in *Healthy People 2000* is to "reduce health disparities among Americans." Particular emphasis is placed on special population subgroups for whom the average incidences of death, disease, and disability may be increased. Characteristics upon which these disparities are based include age, race/ethnicity, income, and educational attainment. BRFSS includes data on each of these characteristics, and, because the data are state specific, the system is also capable of describing geographic disparities. This report presents a comprehensive description of the BRFSS data that can be used to identify groups to target with prevention efforts and measure progress toward year 2000 health objectives.

METHODS

Sampling

Using random-digit-dialing telephone survey techniques, each state selects a probability sample of its noninstitutionalized adult population (≥18 years of age) having telephones. In 1991, 38 states used a multistage cluster-sampling design based on the Waksberg method (*2*). To meet individual needs, other states have chosen to use different sampling methods, such as simple random or stratified sample designs.

Questionnaire

The interviewing instrument consists of three parts: a) a core series of questions asked by all states, b) standardized modules of questions on selected topics that are developed by CDC and added at the discretion of each state, and c) questions developed and administered by a particular state to meet its own needs. Whenever feasible, questions used in national surveys such as the National Health and Nutrition Examination Surveys (NHANES) and the National Health Interview Survey (NHIS) have been adopted.

Data Processing and Analysis

When the interviewing cycle is completed each month, the data are sent to CDC for editing. In 1991, 36 states used a computer-assisted telephone interviewing (CATI) system, which permits direct entry of data into a computer file. CATI facilitates interviewer monitoring, data coding and entry, and quality-control procedures.

For the current study, the edited data were weighted to the age-, race-, and sex-specific population counts from the 1990 census in each state, as well as for the respondent's probability of selection (*3,4*). These weights were used to estimate the prevalence of risk factors and the use of medical screening tests for each state. SESUDAAN, a procedure for analyzing complex sample-survey data, was used to calculate the standard errors for the prevalence estimates (*5*). State sample sizes ranged from 1,178 to 3,417. Sample sizes for demographic subgroups were smaller; therefore, confidence intervals for these estimates are greater. Prevalence estimates are shown only when the sample size was ≥50.* Response rates for completed interviews, by state, ranged from 65.2% to 94.8%.

The design, characteristics, and use of the BRFSS have been described previously (*3,7,8*).

Definitions of Risk Factors and Medical Screening Practices

- **Overweight** — body mass index (BMI = weight [kg]/height [m^2]) ≥27.8 for men and ≥27.3 for women). These values approximate the sex-specific 85th percentile of BMI, estimated from NHANES II, for 20- to 29-year-olds in the United States.
- **No leisure-time physical activity** — no exercise, recreation, or physical activities (other than regular job duties) during the previous month.
- **Smoking** — current regular use of cigarettes by someone who has ever smoked at least 100 cigarettes.
- **Safety belt nonuse** — not always using a safety belt when driving or riding in a car. (To remain consistent with the objectives as stated in *Healthy People 2000*, the data are presented in terms of safety belt use rather than nonuse.)
- **Cholesterol screening** — had blood cholesterol checked within the previous 5 years.
- **Breast cancer screening:**
  - a) ever had a mammogram and clinical breast examination (women ≥40 years of age).
  - b) had mammogram and clinical breast examination within the previous 2 years (women ≥50 years of age).†
- **Pap smear (women ≥18 years of age with intact uterine cervix):**
  - a) ever had a Pap smear.
  - b) had a Pap smear within the previous 2 years.

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*A minimum sample size of 30 has been recommended for simple random surveys (*6*). BRFSS uses a minimum sample size of 50 to allow for the variance that results from a multistage sample design. Additional information on the precision of population subgroup estimates derived from the BRFSS is available (*3*).

†Reported prevalences include women who may have had the tests because of a breast condition such as cancer or a breast lump.

Definitions were chosen that match as closely as possible those described in *Healthy People 2000*. In the following cases, however, BRFSS-derived definitions could not be made identical to *Healthy People 2000* definitions: a) BRFSS contains only self-reported data for height, weight, and high blood pressure, whereas year 2000 objectives derived from NHANES II data are based on measured values. b) BRFSS responses did not include a category for having had most recent Pap smear 2–3 years previously; therefore, this document reports the percentage of women who had a Pap smear within the preceding 2 years rather than within the preceding 3 years, as specified in *Healthy People 2000*. c) BRFSS questions regarding smoking cessation differ from those used in some other surveys. d) Some year 2000 objectives refer to ≥20 years of age as the population base; the current document includes the entire BRFSS data set (i.e., persons ≥18 years of age).

In previous reports (*7,9–12*), safety belt nonuse was defined as "sometimes, seldom, or never" wearing a safety belt (as compared with "always" or "nearly always"). In this report, respondents who reported nearly always wearing safety belts are classified as nonusers. This definition produces estimates closer to those obtained from observational surveys (*13,14*).

In some cases, definitions for sociodemographic variables in *Healthy People 2000* vary among objectives. For example, the year 2000 objectives define low income in some cases as <$10,000 annual family income and in other cases as <$20,000. Similarly, two different cut-offs are used for educational level: "less than high school education" in some objectives and "high school education or less" in others. The definitions used in this report conform to those used in *Healthy People 2000*.

RESULTS

Overweight

The proportion of adults ≥18 years of age who were overweight ranged from 17.8% in Colorado to 28.7% in Michigan (median = 23.4%) (Table 1). When compared with the total population, the median prevalence of overweight was higher among low-income women (30.3%) and black women (39.0%). Although the median for Hispanic women was lower (24.4%), the sample size was sufficient for analysis in only 10 states. The percentage of adults with self-reported high blood pressure who were overweight was high (median = 40.5% for women and 42.5% for men).

No Leisure-Time Physical Activity

The percentage of adults who did not engage in leisure-time physical activity varied nearly threefold, from 16.6% in Montana to 42.6% in Mississippi (median = 28.0%) (Table 2). In general, prevalences were lower in western states (Colorado, 18.0%; Oregon, 19.6%; and Washington, 20.6%). The median percentage among both low-income persons (37.3%) and adults ≥65 years of age (42.3%) was substantially higher than for the total adult population.

Smoking

The percentage of adults ≥18 years of age who reported that they were cigarette smokers ranged from 14.3% in Utah to 30.2% in Kentucky (median = 23.0%) (Table 3). The median prevalence among adults who had a high school education or less was

TABLE 1. Prevalence of overweight* among adults ages ≥18 years in participating states, by selected characteristics — Behavioral Risk Factor Surveillance System, 1991

	Total population		Women									
			Low-income†		Black		Hispanic		w/HBP§		Men w/HBP§	
State	%	(95% CI¶)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Alabama	25.7	±(2.3)	35.1	±(5.9)	36.0	±(6.7)	—	±—	41.2	±(6.5)	47.7	±(10.6)
Alaska	24.6	(3.1)	25.8	(12.5)	—	—	—	—	30.6	(12.0)	43.1	(13.7)
Arizona	20.6	(2.3)	35.4	(9.1)	—	—	31.7	(8.0)	40.9	(8.3)	37.7	(11.1)
Arkansas	23.1	(2.5)	32.8	(8.3)	43.0	(12.2)	—	—	40.9	(9.1)	46.2	(11.6)
California	22.1	(1.7)	26.9	(5.8)	38.2	(9.6)	26.6	(5.5)	43.6	(7.2)	43.9	(8.0)
Colorado	17.8	(1.9)	23.3	(8.5)	—	—	18.5	(9.6)	31.0	(8.1)	36.7	(10.2)
Connecticut	20.6	(2.2)	25.5	(8.7)	41.9	(10.8)	—	—	42.5	(8.9)	30.4	(9.3)
Delaware	27.5	(2.7)	32.3	(9.4)	47.6	(9.5)	—	—	45.7	(9.0)	36.4	(9.7)
District of Columbia	26.8	(2.6)	42.1	(9.9)	37.6	(4.4)	—	—	54.6	(9.1)	46.3	(14.8)
Florida	21.7	(2.0)	32.2	(7.6)	39.0	(9.2)	25.6	(8.7)	37.6	(6.9)	39.3	(10.4)
Georgia	20.6	(2.1)	35.5	(7.7)	35.1	(6.8)	—	—	41.9	(7.7)	32.3	(9.0)
Hawaii	19.6	(2.0)	28.6	(9.6)	37.0	(9.9)	17.0	(8.1)	25.4	(7.8)	33.3	(9.2)
Idaho	22.5	(2.1)	25.5	(6.5)	—	—	—	—	39.9	(7.1)	38.6	(9.6)
Illinois	23.3	(2.0)	27.2	(6.6)	31.0	(7.8)	—	—	42.2	(7.4)	40.5	(8.9)
Indiana	26.9	(2.1)	28.3	(7.0)	39.4	(9.8)	—	—	45.4	(6.5)	44.8	(8.1)
Iowa	25.9	(2.4)	21.9	(8.0)	—	—	—	—	40.1	(7.8)	47.7	(10.5)
Kentucky	25.7	(2.3)	31.4	(5.7)	43.4	(13.8)	—	—	43.1	(7.0)	48.5	(9.8)
Louisiana	26.6	(2.5)	37.9	(6.5)	36.4	(6.9)	—	—	51.8	(8.4)	33.4	(10.0)
Maine	23.3	(2.7)	25.0	(8.1)	—	—	—	—	41.3	(11.6)	36.1	(12.3)
Maryland	20.6	(2.2)	32.0	(14.7)	35.0	(7.0)	—	—	30.8	(7.4)	45.0	(11.3)
Massachusetts	21.0	(2.3)	31.8	(9.6)	—	—	—	—	44.3	(10.1)	30.4	(11.1)
Michigan	28.7	(2.0)	36.9	(6.3)	44.7	(8.4)	—	—	48.6	(6.7)	44.9	(8.3)
Minnesota	23.4	(1.5)	28.6	(5.5)	—	—	—	—	36.8	(6.0)	42.3	(7.7)
Mississippi	27.8	(2.5)	40.1	(6.5)	46.3	(6.8)	—	—	44.7	(6.8)	38.4	(10.0)
Missouri	23.8	(2.4)	29.6	(8.1)	42.5	(12.6)	—	—	39.6	(8.2)	35.5	(9.6)
Montana	20.5	(2.4)	26.7	(9.0)	—	—	—	—	31.0	(8.3)	42.0	(13.8)
Nebraska	24.4	(2.5)	25.8	(8.0)	—	—	—	—	43.6	(8.5)	44.3	(10.8)
New Hampshire	20.9	(2.3)	28.7	(9.4)	—	—	—	—	36.3	(9.4)	35.3	(11.9)
New Jersey	20.4	(2.4)	30.4	(13.6)	—	—	—	—	38.9	(8.6)	48.4	(11.7)
New Mexico	18.9	(2.6)	27.0	(9.3)	—	—	18.9	(5.5)	24.0	(10.3)	32.4	(13.1)
New York	24.2	(2.2)	35.6	(8.2)	40.0	(8.6)	23.1	(8.3)	44.4	(7.8)	44.6	(10.3)
North Carolina	23.0	(2.1)	31.6	(6.9)	33.6	(7.7)	—	—	35.1	(7.4)	49.1	(10.5)
North Dakota	24.0	(2.1)	33.0	(7.5)	—	—	—	—	49.5	(8.6)	42.1	(10.3)
Ohio	24.3	(2.7)	40.4	(9.1)	25.0	(10.4)	—	—	46.1	(10.7)	43.4	(14.9)
Oklahoma	23.8	(2.4)	24.3	(7.3)	35.5	(13.2)	—	—	38.0	(7.5)	38.2	(10.2)
Oregon	22.1	(1.5)	26.8	(6.3)	—	—	29.0	(12.8)	37.2	(5.5)	41.7	(7.7)
Pennsylvania	27.1	(2.0)	34.4	(7.2)	40.7	(10.7)	—	—	48.2	(6.9)	52.3	(8.5)
Rhode Island	20.9	(2.2)	29.9	(8.1)	—	—	—	—	31.1	(7.7)	44.7	(9.5)
South Carolina	25.2	(2.2)	31.6	(6.9)	37.5	(6.1)	—	—	43.0	(6.7)	38.9	(9.0)
South Dakota	24.2	(2.2)	25.8	(6.7)	—	—	—	—	36.0	(8.2)	43.1	(9.8)
Tennessee	24.2	(1.9)	34.8	(5.6)	43.8	(7.1)	—	—	46.0	(6.1)	42.8	(8.2)
Texas	25.3	(2.6)	39.6	(8.8)	42.3	(11.3)	35.0	(8.4)	35.4	(8.3)	43.3	(11.8)
Utah	19.8	(2.0)	19.0	(8.6)	—	—	20.0	(7.0)	34.8	(7.8)	40.9	(9.8)
Vermont	22.6	(2.3)	32.1	(11.1)	—	—	—	—	34.8	(8.5)	44.4	(9.8)
Virginia	18.9	(2.1)	27.5	(9.2)	34.6	(8.7)	—	—	33.7	(9.9)	46.1	(13.1)
Washington	20.0	(1.9)	28.0	(9.3)	—	—	—	—	36.6	(7.7)	50.5	(9.4)
West Virginia	28.0	(2.1)	30.3	(4.9)	40.3	(13.2)	—	—	49.1	(5.8)	43.8	(7.9)
Wisconsin	25.7	(2.3)	35.1	(5.9)	36.0	(6.7)	—	—	41.2	(6.5)	47.7	(10.6)
Median	23.4		30.3		39.0		24.4		40.5		42.5	
Low	17.8		19.0		25.0		17.0		24.0		30.4	
High	28.7		42.3		47.6		35.0		54.6		52.3	
HP 2000 obj** #2.3	≤20.0		≤25.0		≤30.0		≤25.0		≤41.0		≤35.0	

—Fewer than 50 respondents.

*Body mass index ≥27.8 for males and ≥27.3 for females.

†Annual family income <$10,000.

§Told on more than one occasion by a health professional that blood pressure is high (HBP).

¶Confidence interval.

**_Healthy People 2000_ objective was written for adults ages ≥20 years.

TABLE 2. Prevalence of no leisure-time physical activity* among adults ages ≥18 years in participating states, by selected characteristics — Behavioral Risk Factor Surveillance System, 1991

State	Total population		Low income†		Age ≥65 yrs	
	%	(95% CI§)	%	(95%CI)	%	(95% CI)
Alabama	34.2	±(2.4)	43.2	±(4.2)	47.1	±(5.6)
Alaska	22.1	(3.2)	25.0	(6.9)	48.6	(13.2)
Arizona	24.3	(2.4)	31.3	(4.4)	31.0	(5.8)
Arkansas	36.0	(3.0)	41.9	(4.8)	48.7	(6.1)
California	23.3	(1.7)	31.0	(3.4)	26.7	(4.4)
Colorado	18.0	(1.9)	23.7	(3.9)	27.2	(5.6)
Connecticut	25.8	(2.3)	37.2	(5.7)	42.8	(5.9)
Delaware	31.4	(2.7)	44.5	(5.2)	47.9	(6.9)
District of Columbia	39.4	(3.1)	46.1	(5.5)	56.3	(6.7)
Florida	28.4	(2.2)	37.7	(4.2)	30.8	(4.5)
Georgia	39.9	(2.6)	50.1	(4.7)	53.9	(6.8)
Hawaii	23.4	(2.2)	28.7	(4.8)	23.3	(5.3)
Idaho	22.0	(2.2)	28.1	(3.9)	33.7	(4.9)
Illinois	36.1	(2.4)	43.6	(4.0)	49.0	(5.6)
Indiana	26.9	(2.1)	33.6	(3.9)	39.3	(5.0)
Iowa	30.0	(2.5)	36.7	(4.5)	40.1	(5.5)
Kentucky	42.0	(2.6)	52.5	(4.0)	56.0	(5.4)
Louisiana	32.6	(2.6)	36.8	(3.8)	45.5	(6.6)
Maine	34.9	(2.9)	39.4	(4.9)	42.8	(6.8)
Maryland	27.8	(2.5)	38.1	(6.7)	42.3	(6.5)
Massachusetts	25.1	(2.5)	36.1	(5.3)	39.9	(7.1)
Michigan	28.6	(2.0)	37.4	(4.0)	39.7	(5.2)
Minnesota	23.7	(1.6)	33.1	(3.4)	36.6	(4.1)
Mississippi	42.6	(2.8)	46.9	(4.2)	55.3	(6.2)
Missouri	36.3	(2.8)	42.9	(4.9)	47.8	(5.8)
Montana	16.6	(2.4)	22.1	(4.1)	32.1	(6.1)
Nebraska	25.1	(2.5)	31.9	(4.3)	40.6	(5.7)
New Hampshire	21.2	(2.2)	31.2	(5.4)	35.5	(6.9)
New Jersey	31.4	(2.8)	48.3	(8.4)	45.6	(6.5)
New Mexico	33.7	(2.9)	43.6	(5.3)	42.4	(8.8)
New York	34.2	(2.4)	46.6	(4.9)	49.8	(6.0)
North Carolina	33.4	(2.5)	41.3	(4.1)	47.4	(5.6)
North Dakota	28.0	(2.3)	30.9	(3.6)	42.3	(5.2)
Ohio	39.6	(3.1)	37.5	(5.4)	46.8	(6.6)
Oklahoma	36.6	(2.8)	42.1	(4.5)	49.0	(6.6)
Oregon	19.6	(1.5)	24.9	(2.8)	31.5	(3.8)
Pennsylvania	26.4	(2.0)	33.9	(3.6)	42.7	(5.1)
Rhode Island	27.9	(2.4)	37.2	(4.7)	39.3	(5.5)
South Carolina	35.4	(2.5)	45.7	(4.2)	49.5	(5.4)
South Dakota	27.1	(2.3)	30.5	(3.8)	37.0	(5.2)
Tennessee	38.7	(2.0)	48.8	(3.6)	50.0	(4.7)
Texas	27.0	(2.8)	39.0	(5.1)	39.6	(7.1)
Utah	20.8	(2.1)	25.1	(3.8)	30.4	(5.8)
Vermont	26.6	(2.5)	39.2	(5.0)	45.8	(6.3)
Virginia	25.2	(2.4)	37.3	(6.0)	38.7	(7.0)
Washington	20.6	(1.9)	24.5	(3.9)	24.3	(4.9)
West Virginia	42.3	(2.3)	50.5	(3.3)	55.8	(4.6)
Wisconsin	25.0	(2.6)	34.9	(5.0)	33.0	(6.3)
Median	28.0		37.3		42.3	
Low	16.6		22.1		23.3	
High	42.6		52.5		56.3	
HP 2000 obj¶ #1.5	≤15.0**		≤17.0**		≤22.0	

*No exercise, recreation, or physical activities (other than regular job duties) during the previous month.
†Annual family income <$20,000.
§Confidence interval.
¶*Healthy People 2000* objective.
**Objective written for persons ages ≥6 years.

TABLE 3. Smoking* prevalence among adults ages ≥18 years in participating states, by selected characteristics — Behavioral Risk Factor Surveillance System, 1991

State	Total population		High school education or less†		Blacks		Hispanics		Reproductive-aged women§		Quit 1+ days in past year	
	%	(95% CI¶)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Alabama	22.0	±(2.0)	25.4	±(2.7)	19.1	±(4.1)	—	±—	18.0	±(3.3)	59.6	±(4.5)
Alaska	25.9	(3.2)	33.0	(5.0)	—	—	—	—	24.9	(5.2)	57.4	(6.8)
Arizona	23.7	(2.4)	28.7	(3.7)	13.8	(8.7)	17.0	(5.1)	21.6	(4.2)	51.7	(5.6)
Arkansas	26.5	(2.6)	29.3	(3.5)	17.6	(7.4)	—	—	29.7	(5.1)	49.1	(5.4)
California	19.5	(1.6)	24.0	(2.6)	22.1	(6.5)	13.3	(3.0)	17.4	(2.6)	57.1	(4.2)
Colorado	23.5	(2.2)	33.4	(4.3)	22.8	(10.5)	24.9	(9.0)	24.6	(3.8)	59.2	(5.2)
Connecticut	22.4	(2.2)	28.3	(3.6)	19.8	(8.0)	25.1	(15.3)	26.1	(4.4)	58.5	(4.9)
Delaware	25.9	(2.4)	33.0	(3.6)	21.7	(6.2)	—	—	27.2	(4.3)	56.3	(5.1)
District of Columbia	21.5	(2.5)	26.8	(4.0)	26.2	(3.4)	—	—	20.2	(3.9)	57.6	(6.2)
Florida	24.6	(2.2)	28.8	(3.2)	19.3	(7.8)	15.0	(4.6)	22.0	(3.8)	55.1	(4.5)
Georgia	21.7	(2.2)	26.5	(3.3)	21.8	(4.7)	—	—	19.1	(3.5)	49.5	(5.4)
Hawaii	20.3	(2.0)	24.1	(3.4)	28.8	(7.3)	26.6	(8.3)	18.1	(3.5)	60.2	(4.7)
Idaho	21.1	(2.1)	26.7	(3.2)	—	—	—	—	21.1	(3.7)	55.6	(5.3)
Illinois	23.6	(2.0)	26.2	(3.2)	23.3	(5.8)	25.9	(11.4)	26.9	(4.0)	58.1	(4.9)
Indiana	24.4	(2.1)	29.5	(2.9)	35.8	(8.1)	—	—	27.0	(3.7)	52.1	(4.6)
Iowa	20.9	(2.2)	24.7	(3.4)	—	—	—	—	24.5	(4.4)	49.7	(5.5)
Kentucky	30.2	(2.3)	34.3	(3.0)	29.5	(9.9)	—	—	28.8	(4.0)	48.5	(4.5)
Louisiana	24.1	(2.3)	28.7	(3.3)	21.1	(4.4)	18.8	(9.6)	22.7	(3.7)	55.0	(5.4)
Maine	26.0	(2.7)	32.2	(3.7)	—	—	—	—	28.5	(4.8)	58.2	(5.6)
Maryland	21.7	(2.3)	27.5	(3.6)	20.7	(5.0)	12.7	(9.0)	21.2	(3.9)	54.5	(6.0)
Massachusetts	22.5	(2.4)	30.5	(4.0)	19.0	(11.4)	—	—	26.4	(4.3)	59.2	(5.5)
Michigan	27.5	(2.0)	33.6	(2.8)	33.1	(6.1)	32.9	(10.6)	30.4	(3.5)	60.9	(3.9)
Minnesota	23.3	(1.5)	28.2	(2.7)	42.3	(13.8)	—	—	25.9	(2.8)	55.4	(3.6)
Mississippi	24.1	(2.5)	27.2	(3.4)	20.1	(4.7)	39.3	(15.5)	25.4	(4.0)	57.7	(5.4)
Missouri	25.1	(2.4)	30.2	(3.4)	25.0	(8.3)	—	—	25.8	(4.6)	54.8	(5.4)
Montana	20.9	(2.6)	25.9	(4.2)	—	—	—	—	24.6	(5.1)	51.9	(6.7)
Nebraska	22.0	(2.5)	27.2	(3.8)	—	—	—	—	23.9	(4.8)	50.7	(6.1)
New Hampshire	23.8	(2.4)	30.2	(3.8)	—	—	—	—	23.8	(4.3)	58.5	(5.4)
New Jersey	22.4	(2.4)	27.1	(3.9)	30.7	(11.7)	17.2	(10.1)	24.5	(4.5)	56.1	(5.7)
New Mexico	16.4	(2.2)	21.4	(3.8)	—	—	14.0	(3.4)	17.8	(4.1)	55.5	(7.4)
New York	22.9	(2.1)	26.8	(3.2)	19.6	(4.8)	22.7	(6.6)	26.5	(4.0)	53.5	(4.5)
North Carolina	23.9	(2.2)	27.7	(3.0)	23.5	(5.3)	—	—	21.8	(4.0)	55.5	(4.8)
North Dakota	19.8	(2.1)	22.8	(3.1)	—	—	—	—	19.4	(3.6)	54.7	(5.6)
Ohio	22.9	(2.6)	28.1	(3.6)	21.5	(8.2)	—	—	25.9	(4.5)	42.0	(5.9)
Oklahoma	25.0	(2.4)	32.2	(3.7)	18.7	(8.9)	—	—	25.2	(4.3)	56.1	(5.2)
Oregon	20.6	(1.5)	27.0	(2.5)	—	—	20.9	(8.1)	20.8	(2.7)	55.1	(3.9)
Pennsylvania	25.3	(1.9)	28.7	(2.6)	22.9	(6.7)	—	—	29.6	(3.6)	54.8	(4.2)
Rhode Island	24.9	(2.2)	32.2	(3.4)	—	—	—	—	27.0	(4.1)	55.5	(4.6)
South Carolina	22.8	(2.2)	27.3	(3.1)	16.5	(3.9)	—	—	24.9	(4.1)	52.4	(5.1)
South Dakota	22.8	(2.0)	25.7	(3.0)	—	—	—	—	24.0	(3.9)	60.4	(4.8)
Tennessee	28.1	(1.9)	33.1	(2.6)	27.5	(5.0)	—	—	29.7	(3.4)	42.9	(4.0)
Texas	21.8	(2.3)	27.5	(3.6)	20.2	(7.2)	20.6	(5.4)	21.5	(3.8)	59.2	(5.6)
Utah	14.3	(1.8)	25.4	(3.6)	—	—	18.6	(5.2)	14.2	(3.1)	58.0	(6.2)
Vermont	21.5	(2.4)	27.4	(3.9)	—	—	—	—	19.5	(4.3)	59.1	(5.4)
Virginia	21.5	(2.2)	28.5	(4.0)	20.9	(6.3)	22.4	(13.0)	19.6	(3.7)	59.9	(5.2)
Washington	23.1	(2.0)	30.4	(3.4)	—	—	29.4	(12.5)	24.8	(3.6)	58.8	(4.5)
West Virginia	25.2	(1.9)	29.3	(2.4)	32.0	(10.7)	—	—	28.0	(3.6)	47.3	(4.3)
Wisconsin	26.4	(2.6)	32.0	(3.9)	—	—	—	—	25.0	(4.4)	56.3	(5.6)
Median	23.0		28.1		21.7		21.1		24.6		55.6	
Low	14.3		21.4		13.8		12.7		14.2		42.0	
High	30.2		34.3		42.3		39.3		30.4		60.9	
HP 2000 obj** #3.4	≤15.0		≤20.0		≤18.0		≤18.0		≤12.0		≥50.0†	

—Fewer than 50 respondents.

*Ever smoked 100 cigarettes and currently smoke regularly.

†Objective #3.6.

§Women ages 18–44 years.

¶Confidence interval.

**_Healthy People 2000_ objective was written for adults ages ≥20 years.

about five percentage points higher than the median among the total adult population. The percentage of current regular smokers who quit smoking at least 1 day in the past year ranged from 42.0% in Ohio to 60.9% in Michigan (median = 55.6%).

Only Utah reported a prevalence of smoking that met the year 2000 objective in the total adult population (Table 3). No state reported a prevalence below the smoking objective for adults with a high school education or less or for women of reproductive age.

Safety Belt Use

The percentage of adults ≥18 years of age who reported that they always wore a safety belt while riding or driving in a car ranged from 22.8% in South Dakota to 87.8% in Hawaii (median = 58.2%) (Table 4).

Cholesterol Screening

The percentage of adults ≥18 years of age who had had a blood cholesterol screening test within the previous 5 years ranged from 56.2% in New Mexico to 71.3% in Connecticut (median = 63.7%) (Table 5). Prevalences were highest in four northeastern states and Florida: New Jersey (71.2%), Florida (71.1%), New Hampshire (70.2%), Rhode Island (69.6%), and Massachusetts (68.0%). The median percentage of adults who had had a blood cholesterol screening test within the previous 5 years (63.7%)

TABLE 4. Prevalence of safety belt use* among adults ages ≥18 years, in participating states — Behavioral Risk Factor Surveillance System, 1991

State	%	(95 %CI[†])	State	%	(95% CI)
Alabama	49.2	±(2.6)	Missouri	58.2	±(2.8)
Alaska	60.3	(3.5)	Montana	46.5	(3.1)
Arizona	71.2	(2.7)	Nebraska	28.7	(2.6)
Arkansas	49.5	(3.2)	New Hampshire	46.2	(2.8)
California	74.7	(1.8)	New Jersey	71.8	(2.7)
Colorado	63.7	(2.6)	New Mexico	72.7	(2.8)
Connecticut	62.9	(2.6)	New York	64.6	(2.5)
Delaware	53.0	(2.8)	North Carolina	73.7	(2.4)
District of Columbia	62.0	(2.9)	North Dakota	29.1	(2.5)
Florida	68.7	(2.4)	Ohio	58.1	(3.1)
Georgia	58.7	(2.7)	Oklahoma	57.2	(2.9)
Hawaii	87.8	(1.6)	Oregon	74.9	(1.7)
Idaho	48.2	(2.6)	Pennsylvania	52.9	(2.2)
Illinois	56.5	(2.5)	Rhode Island	39.0	(2.5)
Indiana	53.2	(2.4)	South Carolina	64.6	(2.6)
Iowa	58.9	(2.7)	South Dakota	22.8	(2.1)
Kentucky	42.4	(2.6)	Tennessee	56.0	(2.1)
Louisiana	63.9	(2.7)	Texas	70.8	(2.7)
Maine	42.8	(3.0)	Utah	46.4	(2.6)
Maryland	71.8	(2.6)	Vermont	50.7	(2.7)
Massachusetts	40.0	(2.8)	Virginia	72.5	(2.4)
Michigan	66.0	(2.1)	Washington	72.2	(2.1)
Minnesota	58.4	(1.9)	West Virginia	40.8	(2.1)
Mississippi	35.6	(2.6)	Wisconsin	52.2	(3.0)
Median		58.2			
Low		22.8			
High		87.8			
HP 2000 obj #9.12[§]		≥85.0			

*Persons who report always using a seat belt.
[†]Confidence interval.
[§]*Healthy People 2000* objective was written for adults ages ≥20 years.

was about 10 percentage points below the year 2000 objective (≥75%). As of 1991, no state had reported a prevalence consistent with this objective.

Breast Cancer Screening

The percentage of women ≥40 years of age who had ever had both a mammogram and a clinical breast examination ranged from 55.5% in Louisiana to 83.1% in the District of Columbia (median = 69.7%) (Table 6). However, the median prevalences were lower for each of the population subgroups specified in *Healthy People 2000.*

The percentage of women ≥50 years of age who had had a mammogram and a clinical breast examination within the previous 2 years was highest in the District of Columbia (82.8%) and lowest in Louisiana (45.6%) (median = 57.8%) (Table 7). The prevalence of screening was lowest among low-income women ≥50 years of age (median = 41.4%).

The median percentage of women ≥ 40 years of age who had ever had both a clinical breast examination and a mammogram (69.7%) was about 10 percentage points below the year 2000 objective (≥80%). The District of Columbia (83.1%) and Washington (81.4%) met that objective in 1991. Many states reported prevalences above the year 2000 target percentage (≥60%) for women ≥50 years of age who had had both examinations within the previous 2 years. Only the District of Columbia, however, reported prevalences higher than this objective for each population subgroup.

TABLE 5. Percentage of respondents who had blood cholesterol checked within previous 5 years among adults ages ≥18 years, in participating states — Behavioral Risk Factor Factor Surveillance System, 1991

State	%	(95% CI*)	State	%	(95% CI)
Alabama	63.2	±(2.5)	Missouri	65.0	±(2.6)
Alaska	57.1	(3.7)	Montana	58.6	(3.3)
Arizona	60.8	(3.0)	Nebraska	60.9	(3.0)
Arkansas	58.9	(2.9)	New Hampshire	70.2	(2.6)
California	63.3	(2.1)	New Jersey	71.2	(2.9)
Colorado	63.6	(2.7)	New Mexico	56.2	(3.1)
Connecticut	71.3	(2.5)	New York	66.4	(2.4)
Delaware	62.9	(2.9)	North Carolina	66.3	(2.6)
District of Columbia	66.2	(3.0)	North Dakota	63.1	(2.5)
Florida	71.1	(2.3)	Ohio	63.2	(2.9)
Georgia	62.0	(2.6)	Oklahoma	65.0	(2.8)
Hawaii	64.5	(2.5)	Oregon	64.9	(1.8)
Idaho	61.4	(2.5)	Pennsylvania	65.0	(2.1)
Illinois	61.4	(2.5)	Rhode Island	69.6	(2.5)
Indiana	60.3	(2.3)	South Carolina	63.7	(2.6)
Iowa	66.2	(2.6)	South Dakota	63.0	(2.5)
Kentucky	57.9	(2.5)	Tennessee	63.4	(2.1)
Louisiana	60.8	(2.8)	Texas	60.0	(2.9)
Maine	65.0	(2.9)	Utah	57.6	(2.6)
Maryland	65.8	(2.7)	Vermont	66.5	(2.6)
Massachusetts	68.0	(2.7)	Virginia	67.3	(2.6)
Michigan	66.8	(2.1)	Washington	67.0	(2.2)
Minnesota	67.5	(1.8)	West Virginia	62.8	(2.2)
Mississippi	56.9	(2.7)	Wisconsin	65.1	(2.9)
Median		63.7			
Low		56.2			
High		71.3			
HP 2000 obj† #15.14		≥75.0			

* Confidence interval.
† *Healthy People 2000* objective was written for adults ages ≥20 years.

TABLE 6. Percentage of women ages ≥40 years who had ever had a clinical breast examination and a mammogram, in participating states, by selected characteristics — Behavioral Risk Factor Surveillance System, 1991

State	Total population		Low income†		Less than high school education		Age ≥70 years		Blacks		Hispanics	
	%	(95% CI*)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Alabama	66.6	±(3.7)	53.4	±(7.7)	57.4	±(6.6)	55.0	±(7.9)	62.2	±(8.9)	—	±—
Alaska	72.5	(6.9)	—	—	51.2	(16.1)	—	—	—	—	—	—
Arizona	67.1	(4.8)	55.0	(13.4)	55.3	(12.6)	69.6	(8.3)	—	—	60.9	(13.7)
Arkansas	55.9	(5.1)	36.0	(9.6)	40.5	(8.9)	46.9	(8.8)	—	—	—	—
California	77.5	(3.3)	69.7	(8.8)	61.4	(10.0)	72.2	(7.0)	76.3	(12.8)	67.8	(10.6)
Colorado	73.1	(4.0)	53.6	(12.4)	48.8	(13.9)	68.8	(9.1)	—	—	—	—
Connecticut	73.8	(4.1)	47.1	(12.7)	55.9	(11.6)	58.6	(9.5)	—	—	—	—
Delaware	72.5	(4.4)	59.8	(12.6)	62.4	(9.7)	64.6	(9.1)	63.7	(13.7)	—	—
District of Columbia	83.1	(4.0)	69.4	(13.4)	77.4	(9.9)	79.5	(8.0)	84.8	(4.7)	—	—
Florida	72.9	(3.5)	60.1	(8.8)	60.3	(8.4)	69.6	(6.8)	75.4	(10.7)	59.9	(12.1)
Georgia	71.1	(4.2)	54.2	(9.4)	60.0	(8.0)	59.3	(9.5)	57.5	(9.6)	—	—
Hawaii	70.1	(4.5)	60.6	(13.3)	62.7	(10.4)	66.2	(10.0)	—	—	—	—
Idaho	67.5	(4.0)	53.1	(9.1)	57.3	(8.4)	58.4	(7.4)	—	—	—	—
Illinois	67.0	(4.4)	50.3	(9.0)	63.7	(9.8)	58.0	(8.0)	67.4	(11.3)	—	—
Indiana	64.4	(3.8)	45.8	(9.8)	47.2	(8.0)	51.1	(7.7)	52.9	(14.1)	—	—
Iowa	62.6	(4.7)	48.0	(11.5)	57.5	(11.2)	53.3	(8.0)	—	—	—	—
Kentucky	61.3	(4.1)	46.4	(7.6)	47.8	(6.9)	48.3	(8.2)	—	—	—	—
Louisiana	55.5	(4.6)	46.8	(8.7)	41.3	(8.1)	47.3	(9.5)	49.2	(10.1)	—	—
Maine	76.3	(4.4)	62.0	(10.4)	63.0	(9.8)	68.0	(9.7)	—	—	—	—
Maryland	76.3	(3.9)	—	—	59.4	(10.5)	66.1	(9.6)	78.5	(7.5)	—	—
Massachusetts	75.8	(4.7)	61.6	(12.7)	61.7	(13.3)	67.2	(9.4)	—	—	—	—
Michigan	72.3	(3.5)	60.7	(8.2)	56.6	(7.9)	61.7	(7.1)	63.4	(12.0)	—	—
Minnesota	77.6	(2.8)	65.3	(7.4)	68.5	(7.6)	63.6	(6.0)	—	—	—	—
Mississippi	58.7	(4.2)	46.9	(8.4)	46.0	(7.5)	51.9	(8.4)	44.8	(9.1)	—	—
Missouri	66.4	(4.2)	58.6	(9.4)	58.3	(8.7)	61.7	(7.9)	—	—	—	—
Montana	69.6	(4.7)	42.7	(11.2)	46.8	(13.3)	55.1	(9.4)	—	—	—	—
Nebraska	59.6	(4.9)	47.5	(10.4)	49.8	(11.4)	49.1	(8.0)	—	—	—	—
New Hampshire	76.7	(4.2)	54.7	(12.2)	63.2	(12.8)	52.9	(11.0)	—	—	—	—
New Jersey	67.2	(4.4)	—	—	60.8	(12.7)	57.1	(8.9)	—	—	—	—
New Mexico	61.0	(6.1)	49.8	(16.6)	48.4	(14.9)	46.8	(14.7)	—	—	51.6	(10.8)
New York	68.0	(4.2)	62.6	(10.5)	55.0	(9.0)	63.5	(8.1)	72.0	(11.4)	—	—
North Carolina	66.8	(4.4)	59.8	(8.4)	51.8	(7.8)	61.3	(7.3)	61.8	(11.4)	—	—
North Dakota	72.1	(4.0)	62.9	(9.0)	59.0	(8.2)	64.5	(7.0)	—	—	—	—
Ohio	65.1	(5.2)	63.7	(12.0)	57.6	(11.1)	56.1	(10.8)	—	—	—	—
Oklahoma	63.8	(4.6)	44.6	(9.3)	52.8	(9.8)	56.4	(8.6)	—	—	—	—
Oregon	79.4	(2.5)	66.3	(7.7)	67.6	(8.6)	73.1	(5.3)	—	—	—	—
Pennsylvania	69.1	(3.6)	65.1	(8.1)	56.6	(8.2)	55.9	(7.6)	70.8	(13.0)	—	—
Rhode Island	76.0	(3.9)	70.8	(8.9)	74.7	(7.0)	67.0	(7.5)	—	—	—	—
South Carolina	67.5	(3.9)	50.1	(8.0)	54.2	(7.0)	56.5	(6.8)	57.6	(8.4)	—	—
South Dakota	67.4	(4.0)	52.1	(9.4)	59.5	(9.4)	58.7	(7.3)	—	—	—	—
Tennessee	66.1	(3.4)	52.0	(6.9)	52.3	(6.4)	58.3	(7.0)	64.5	(10.4)	—	—
Texas	70.6	(4.4)	52.4	(10.6)	50.9	(10.0)	60.8	(10.0)	55.2	(16.6)	55.7	(13.0)
Utah	69.8	(4.5)	60.6	(13.7)	66.4	(12.5)	67.9	(8.0)	—	—	68.8	(11.8)
Vermont	73.1	(4.0)	53.8	(11.9)	60.5	(11.3)	57.4	(9.6)	—	—	—	—
Virginia	70.6	(4.8)	51.6	(12.7)	61.5	(10.3)	65.5	(10.7)	60.7	(13.6)	—	—
Washington	81.4	(3.4)	66.1	(13.4)	63.9	(12.5)	78.3	(7.0)	—	—	—	—
West Virginia	61.2	(3.5)	46.9	(6.2)	48.6	(6.0)	58.2	(6.3)	—	—	—	—
Wisconsin	74.1	(4.8)	47.0	(12.6)	50.8	(12.7)	55.8	(10.3)	—	—	—	—
Median	69.7		53.8		57.4		59.0		62.8		60.4	
Low	55.5		36.0		40.5		46.8		44.8		51.6	
High	83.8		70.8		77.4		79.5		84.8		68.8	
HP 2000 obj§ #16.11	≥80.0		≥80.0		≥80.0		≥80.0		≥80.0		≥80.0	

—Fewer than 50 respondents.

*Confidence interval.

†Annual family income <$10,000.

§*Healthy People 2000* objective.

TABLE 7. Percentage of women ages ≥50 years who had a clinical breast examination and a mammogram during the previous 2 years, in participating states, by selected characteristics — Behavioral Risk Factor Surveillance System, 1991

State	Total population		Low income†		Less than high school education		Age ≥70 years		Blacks		Hispanics	
	%	(95% CI*)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Alabama	53.2	±(4.8)	38.3	±(7.9)	46.6	±(7.1)	47.1	±(8.1)	45.8	±(11.0)	—	±—
Alaska	61.4	(10.3)	—	—	34.4	(15.0)	—	—	—	—	—	—
Arizona	56.0	(5.9)	43.8	(14.7)	44.0	(14.1)	58.2	(8.8)	—	—	—	—
Arkansas	45.7	(6.0)	31.7	(9.8)	36.1	(9.5)	39.1	(8.4)	—	—	—	—
California	64.1	(4.5)	54.9	(9.8)	51.8	(11.2)	59.1	(7.6)	—	—	56.7	(15.2)
Colorado	59.9	(5.8)	39.6	(13.4)	30.3	(13.3)	56.3	(10.4)	—	—	—	—
Connecticut	60.7	(5.5)	41.6	(12.5)	44.0	(12.5)	49.9	(9.5)	—	—	—	—
Delaware	61.6	(5.6)	45.7	(13.2)	51.8	(10.7)	50.6	(9.6)	—	—	—	—
District of Columbia	82.8	(4.6)	76.2	(13.4)	80.7	(9.7)	76.9	(8.5)	86.9	(4.8)	—	—
Florida	62.3	(4.3)	47.3	(9.0)	52.0	(9.0)	59.3	(7.2)	60.4	(13.3)	55.5	(13.8)
Georgia	57.6	(5.9)	42.4	(9.9)	50.5	(8.7)	48.3	(9.5)	42.5	(12.0)	—	—
Hawaii	60.8	(5.7)	54.3	(15.0)	49.8	(11.4)	53.1	(10.8)	—	—	—	—
Idaho	52.7	(5.0)	34.7	(9.5)	37.8	(8.7)	43.4	(7.5)	—	—	—	—
Illinois	59.2	(5.4)	48.0	(9.4)	58.7	(10.2)	50.3	(8.1)	60.6	(15.4)	—	—
Indiana	49.7	(4.7)	37.0	(9.7)	41.2	(8.3)	37.9	(7.2)	—	—	—	—
Iowa	51.6	(5.5)	38.9	(11.6)	43.3	(11.0)	43.6	(7.8)	—	—	—	—
Kentucky	49.5	(5.1)	34.8	(8.1)	36.4	(7.3)	38.7	(8.0)	—	—	—	—
Louisiana	45.6	(5.5)	35.9	(9.1)	36.2	(8.8)	39.4	(9.6)	32.8	(11.3)	—	—
Maine	65.0	(5.8)	50.9	(11.1)	57.2	(10.6)	58.5	(10.8)	—	—	—	—
Maryland	69.3	(5.3)	—	—	53.7	(12.5)	55.0	(10.8)	75.0	(10.5)	—	—
Massachusetts	67.5	(6.1)	57.8	(13.2)	56.2	(14.1)	56.7	(10.2)	—	—	—	—
Michigan	61.0	(4.6)	45.6	(8.9)	44.9	(8.5)	48.3	(7.6)	—	—	—	—
Minnesota	65.0	(3.8)	50.9	(7.9)	54.5	(8.0)	50.8	(6.2)	—	—	—	—
Mississippi	45.7	(5.1)	35.0	(8.4)	34.3	(7.7)	34.4	(7.6)	34.8	(10.5)	—	—
Missouri	57.3	(5.2)	42.9	(10.4)	50.2	(9.0)	51.0	(8.2)	—	—	—	—
Montana	52.8	(6.3)	30.0	(11.1)	32.5	(13.1)	42.2	(9.9)	—	—	—	—
Nebraska	46.0	(5.5)	33.6	(10.2)	34.0	(10.9)	37.9	(7.9)	—	—	—	—
New Hampshire	63.8	(6.0)	45.6	(12.4)	58.0	(14.3)	45.8	(10.9)	—	—	—	—
New Jersey	55.9	(5.4)	—	—	51.1	(13.7)	44.8	(9.2)	—	—	—	—
New Mexico	52.6	(8.1)	—	—	42.0	(15.4)	32.6	(12.9)	—	—	41.6	(13.8)
New York	54.4	(5.4)	45.0	(11.7)	40.7	(9.8)	46.8	(8.8)	—	—	—	—
North Carolina	58.8	(5.0)	51.5	(9.0)	46.3	(8.0)	54.3	(7.6)	49.2	(13.7)	—	—
North Dakota	59.3	(4.9)	50.6	(9.2)	48.7	(8.6)	54.1	(7.4)	—	—	—	—
Ohio	51.3	(6.4)	50.2	(13.0)	47.3	(12.0)	46.0	(10.9)	—	—	—	—
Oklahoma	49.6	(5.5)	29.0	(9.0)	40.9	(10.2)	42.9	(8.4)	—	—	—	—
Oregon	64.2	(3.6)	40.3	(8.5)	51.3	(9.4)	53.7	(6.0)	—	—	—	—
Pennsylvania	58.1	(4.5)	56.2	(9.2)	46.0	(8.8)	48.5	(7.7)	—	—	—	—
Rhode Island	62.4	(5.2)	60.4	(10.1)	62.5	(8.6)	53.1	(8.3)	—	—	—	—
South Carolina	57.5	(4.6)	40.5	(8.4)	44.6	(7.4)	47.0	(6.8)	46.9	(10.1)	—	—
South Dakota	54.8	(5.0)	34.2	(9.2)	41.3	(9.0)	41.0	(7.4)	—	—	—	—
Tennessee	55.3	(4.4)	41.0	(7.3)	43.4	(6.7)	50.8	(7.2)	64.2	(12.1)	—	—
Texas	52.9	(6.0)	35.4	(11.7)	36.1	(10.1)	41.8	(9.7)	—	—	—	—
Utah	57.2	(5.4)	41.2	(14.9)	52.7	(14.3)	51.0	(8.7)	—	—	—	—
Vermont	61.0	(5.7)	27.3	(10.8)	36.4	(12.0)	42.3	(10.1)	—	—	—	—
Virginia	58.3	(6.6)	45.3	(13.7)	48.0	(12.1)	56.7	(11.1)	42.4	(16.3)	—	—
Washington	67.0	(4.9)	39.4	(14.5)	48.4	(13.5)	63.0	(8.2)	—	—	—	—
West Virginia	52.1	(4.0)	39.2	(6.4)	39.5	(6.3)	47.8	(6.3)	—	—	—	—
Wisconsin	58.9	(6.3)	37.3	(12.4)	42.3	(12.7)	41.3	(10.4)	—	—	—	—
Median	57.8		41.4		45.4		48.3		48.0		55.5	
Low	45.6		27.3		30.3		32.6		15.6		41.6	
High	82.8		76.2		80.7		76.9		86.9		56.7	
HP 2000 obj§ #16.11	≥60.0		≥60.0		≥60.0		≥60.0		≥60.0		≥60.0	

—Fewer than 50 respondents.
*Confidence interval.
†Annual family income <$10,000.
§*Healthy People 2000* objective.

Pap Smear

The percentage of women ≥18 years of age who had ever had a Pap smear was high in all states, ranging from 86.8% in New York to 95.3% in Colorado (median = 92.4%) (Table 8). The median prevalences for the special population subgroups were lower (range = 83.9%–85.8%). Washington and Oregon were the only states where at least 90% of all groups reported having had a Pap smear.

The median percentage of women ≥18 years of age who had ever had a Pap smear was <3 percentage points below the year 2000 objective of 95%. Colorado, Maine, Oregon, and Washington reported prevalences at least as high as this objective. With regard to special population subgroups, Washington reported a prevalence at least as high as the year 2000 objective for low-income women, Idaho for women who had less than a high school education, and Colorado for Hispanic women.

The percentage of women ≥18 years of age who had had a Pap smear within the past 2 years ranged from 73.7% in West Virginia to 87.5% in the District of Columbia (median = 79.7%) (Table 9). Median prevalences were lower for each of the special subgroups, particularly for women ≥70 years of age (55.7%). Fewer than half of women ≥70 years of age had had a Pap smear within the past 2 years in Georgia, Indiana, Kentucky, Louisiana, Massachusetts, New Hampshire, and Vermont.

The median percentage of women ages ≥18 years who had a Pap smear within the previous 2 years (79.7%) was about 5 percentage points below the year 2000 objective of ≥85%. The District of Columbia and Maryland reported prevalences at least as high as this objective. Only the District of Columbia reported a prevalence at least as high as the year 2000 objective for each special population subgroup.

DISCUSSION

The prevalence of targeted behaviors varied considerably by type of behavior and among states. Median prevalences of overweight were substantially higher than the year 2000 objectives for all groups except Hispanic women and women with elevated blood pressure (Table 1). Because overweight persons tend to underreport their weight (*15*), BRFSS data tend to underestimate the true population prevalence of overweight. Furthermore, overweight women tend to underreport their weight by a larger amount than do overweight men. This differential reporting by sex may explain in part why the BRFSS median for overweight among hypertensive men is higher than among hypertensive women. In contrast, the *Healthy People 2000* baseline prevalences of overweight among hypertensive persons (obtained by direct measurement in NHANES II) were higher for women (50%) than for men (39%).

In 1991, the median prevalence of overweight was higher than in any of the 4 previous years (*7*), suggesting that the percentage of overweight persons may be increasing. Increased prevalence of overweight has been reported elsewhere for the United States (*16,17*) and for the upper Midwest (*18*).

Median percentages of adults who reported that they did not engage in any leisure-time physical activity were approximately twice the year 2000 objectives for all three demographic groups (Table 2). No state reported a prevalence that achieved these objectives. The 1991 median for all adults ≥18 years of age (28.0%) was slightly lower than the median for 1990 (28.7%). For the years 1986–1989, the lowest median prevalence was 30.0% (*2*). These data suggest that the percentage of people who exercise may have begun to increase slightly.

TABLE 8. Percentage of women ages ≥18 years with an intact uterine cervix who had ever had a Pap smear, in participating states, by selected characteristics — Behavioral Risk Factor Surveillance System, 1991

State	Total population		Low income†		Less than high school education		Age ≥70 years		Hispanics	
	%	(95% CI*)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Alabama	92.5	±(2.2)	84.8	±(5.9)	87.2	±(5.4)	78.0	±(8.6)	—	±—
Alaska	93.0	(3.6)	82.6	(13.6)	73.9	(18.5)	78.3	(20.6)	—	—
Arizona	91.0	(3.0)	87.8	(9.4)	91.2	(6.6)	93.8	(5.6)	84.1	(8.6)
Arkansas	91.5	(2.5)	75.3	(8.9)	83.6	(6.5)	79.5	(8.5)	—	—
California	90.1	(2.1)	83.5	(6.2)	73.7	(7.9)	89.5	(6.4)	80.8	(5.5)
Colorado	95.3	(1.8)	92.6	(5.0)	88.9	(9.5)	89.6	(7.3)	100.0	(0.0)
Connecticut	93.2	(2.1)	82.6	(8.9)	83.7	(9.3)	82.1	(9.0)	—	—
Delaware	93.4	(2.4)	84.2	(12.4)	87.5	(7.5)	78.8	(9.6)	—	—
District of Columbia	92.9	(2.3)	89.7	(6.4)	90.3	(6.6)	86.2	(8.9)	—	—
Florida	89.9	(2.6)	76.8	(10.1)	83.3	(7.0)	87.3	(6.3)	76.1	(8.7)
Georgia	94.1	(2.4)	88.3	(7.3)	84.4	(9.5)	81.7	(11.3)	—	—
Hawaii	89.3	(2.7)	84.1	(10.2)	82.1	(8.6)	86.8	(9.0)	91.4	(10.1)
Idaho	93.4	(2.2)	80.2	(9.5)	94.9	(4.1)	91.4	(5.2)	—	—
Illinois	87.1	(2.7)	72.9	(7.8)	79.6	(8.1)	74.8	(8.9)	—	—
Indiana	93.6	(1.8)	79.5	(8.0)	89.0	(5.1)	85.0	(6.1)	—	—
Iowa	93.2	(2.4)	81.0	(9.3)	88.4	(7.9)	79.6	(9.1)	—	—
Kentucky	91.7	(2.2)	89.3	(5.1)	85.5	(5.5)	76.5	(10.0)	—	—
Louisiana	92.5	(2.4)	84.7	(6.4)	82.2	(8.3)	82.5	(9.4)	—	—
Maine	95.1	(2.1)	86.9	(7.9)	84.7	(7.9)	85.3	(10.2)	—	—
Maryland	92.4	(2.3)	—	—	84.3	(11.3)	84.0	(9.6)	—	—
Massachusetts	92.0	(2.3)	87.3	(7.5)	73.6	(13.0)	80.2	(9.9)	—	—
Michigan	94.2	(1.6)	91.7	(4.2)	90.5	(4.4)	84.9	(6.8)	—	—
Minnesota	92.9	(1.6)	82.2	(6.2)	84.9	(6.4)	82.5	(6.1)	—	—
Mississippi	89.2	(2.9)	84.0	(6.2)	81.6	(7.9)	72.2	(10.0)	—	—
Missouri	92.6	(2.6)	81.2	(11.4)	92.7	(4.5)	84.2	(7.3)	—	—
Montana	93.1	(3.1)	87.8	(7.7)	80.9	(14.3)	81.6	(8.9)	—	—
Nebraska	93.5	(2.6)	92.3	(5.1)	84.4	(9.6)	85.0	(7.2)	—	—
New Hampshire	93.7	(2.3)	83.3	(10.2)	84.7	(10.8)	81.6	(9.6)	—	—
New Jersey	90.8	(2.4)	—	—	78.9	(11.4)	88.9	(6.0)	—	—
New Mexico	88.8	(3.5)	77.5	(10.9)	81.1	(11.8)	—	—	81.7	(7.0)
New York	86.8	(2.5)	82.9	(7.8)	72.9	(8.4)	76.3	(8.2)	84.8	(7.4)
North Carolina	92.4	(2.5)	88.0	(6.0)	80.7	(8.7)	86.6	(6.2)	—	—
North Dakota	91.2	(2.6)	85.2	(6.8)	76.2	(10.3)	84.5	(6.5)	—	—
Ohio	91.4	(2.8)	84.0	(9.2)	87.7	(8.1)	85.1	(9.5)	—	—
Oklahoma	93.1	(2.5)	86.1	(7.7)	93.2	(5.4)	86.0	(8.3)	—	—
Oregon	95.2	(1.5)	91.0	(6.4)	91.7	(6.5)	91.5	(5.0)	93.4	(7.5)
Pennsylvania	92.3	(1.8)	81.8	(7.3)	89.3	(5.3)	88.7	(5.1)	—	—
Rhode Island	91.8	(2.3)	85.7	(7.9)	87.2	(6.1)	81.3	(8.2)	—	—
South Carolina	94.1	(1.8)	83.8	(6.3)	89.9	(4.4)	84.3	(6.3)	—	—
South Dakota	93.8	(2.0)	86.6	(6.9)	83.2	(9.1)	88.8	(5.6)	—	—
Tennessee	91.5	(1.8)	86.7	(4.6)	88.6	(3.9)	76.5	(9.0)	—	—
Texas	91.4	(2.5)	83.6	(8.4)	78.4	(8.1)	82.6	(9.1)	86.7	(5.4)
Utah	90.9	(2.7)	79.9	(11.5)	84.1	(10.8)	93.5	(5.8)	87.4	(8.0)
Vermont	92.4	(2.5)	83.1	(10.4)	84.7	(8.5)	81.0	(9.2)	—	—
Virginia	91.7	(2.5)	79.1	(13.3)	84.8	(7.7)	85.6	(8.5)	—	—
Washington	94.9	(1.8)	95.3	(5.7)	89.9	(8.1)	93.6	(5.7)	—	—
West Virginia	91.2	(2.0)	84.6	(5.2)	88.6	(4.4)	79.7	(6.6)	—	—
Wisconsin	91.6	(2.8)	83.5	(10.3)	77.6	(12.3)	75.9	(12.4)	—	—
Median	92.4		83.9		84.7		84.2		85.8	
Low	86.8		70.1		72.9		72.2		76.1	
High	95.3		95.3		94.9		93.8		100.0	
HP 2000 obj§ #16.12	≥95.0		≥95.0		≥95.0		≥95.0		≥95.0	

—Fewer than 50 respondents.
*Confidence interval.
†Annual family income <$10,000.
§*Healthy People 2000* objective.

TABLE 9. Percentage of women ages ≥18 years with an intact uterine cervix who had had a Pap smear during the previous 2 years,* in participating states, by selected characteristics — Behavioral Risk Factor Surveillance System, 1991

State	Total population		Low income[§]		Less than high school education		Age ≥70 years		Hispanics	
	%	(95% CI[†])	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Alabama	82.4	±(2.9)	70.6	±(7.2)	68.5	±(7.5)	55.5	±(10.6)	—	±—
Alaska	83.0	(4.5)	73.9	(14.9)	63.1	(18.3)	—	—	—	—
Arizona	78.9	(3.8)	72.6	(11.0)	73.2	(10.4)	65.5	(11.6)	71.8	(9.8)
Arkansas	74.7	(4.1)	55.2	(11.0)	53.5	(9.8)	55.7	(11.1)	—	—
California	80.4	(2.6)	73.5	(7.0)	62.8	(8.4)	72.7	(9.4)	74.8	(5.9)
Colorado	84.2	(2.9)	71.8	(9.4)	65.3	(12.8)	57.8	(13.2)	94.1	(5.6)
Connecticut	81.7	(3.0)	65.4	(11.9)	63.7	(12.0)	55.8	(11.4)	—	—
Delaware	82.4	(3.1)	61.7	(13.2)	68.2	(9.5)	57.4	(10.9)	—	—
District of Columbia	87.5	(3.0)	81.9	(9.3)	83.6	(8.7)	75.1	(11.1)	—	—
Florida	76.1	(3.3)	62.8	(10.5)	63.1	(9.4)	64.0	(9.0)	62.7	(9.5)
Georgia	82.7	(3.3)	64.9	(9.9)	59.2	(10.2)	47.4	(12.9)	—	—
Hawaii	79.3	(3.3)	71.5	(11.3)	71.9	(9.7)	63.1	(11.9)	83.3	(11.4)
Idaho	78.0	(3.4)	60.8	(10.2)	74.1	(8.0)	56.8	(10.9)	—	—
Illinois	79.1	(3.1)	63.8	(8.1)	69.8	(9.2)	52.4	(10.9)	—	—
Indiana	79.4	(2.8)	65.4	(9.3)	67.0	(8.7)	49.3	(9.5)	—	—
Iowa	80.8	(3.1)	67.9	(10.2)	66.5	(11.2)	60.0	(10.1)	—	—
Kentucky	77.2	(3.1)	63.1	(7.5)	60.9	(7.2)	43.8	(10.9)	—	—
Louisiana	82.4	(3.2)	73.3	(7.4)	62.2	(9.5)	49.2	(13.6)	—	—
Maine	83.3	(3.7)	74.0	(9.7)	68.7	(11.3)	69.6	(12.3)	—	—
Maryland	84.9	(2.8)	—	—	67.5	(12.4)	57.6	(14.3)	—	—
Massachusetts	77.4	(3.6)	69.4	(10.8)	53.1	(14.6)	49.0	(12.5)	—	—
Michigan	79.7	(2.7)	75.6	(6.5)	72.7	(6.9)	53.8	(9.7)	—	—
Minnesota	79.8	(2.2)	66.3	(6.8)	63.7	(8.4)	52.0	(7.4)	—	—
Mississippi	75.6	(3.5)	67.4	(7.3)	57.6	(9.0)	50.7	(10.3)	—	—
Missouri	83.7	(3.3)	71.1	(11.3)	77.1	(8.4)	66.0	(9.3)	—	—
Montana	78.8	(4.0)	74.4	(9.7)	59.8	(14.9)	57.1	(11.9)	—	—
Nebraska	78.5	(3.7)	76.3	(7.9)	58.3	(13.2)	55.6	(10.2)	—	—
New Hampshire	79.4	(3.4)	54.8	(12.1)	54.3	(13.0)	46.0	(13.1)	—	—
New Jersey	77.3	(3.3)	—	—	53.7	(13.3)	59.2	(10.8)	—	—
New Mexico	75.7	(4.7)	51.0	(13.4)	49.0	(14.0)	—	—	71.6	(7.7)
New York	78.3	(3.0)	73.6	(8.8)	60.0	(9.1)	56.1	(10.4)	76.3	(9.4)
North Carolina	83.5	(3.1)	78.4	(7.0)	67.3	(9.1)	66.2	(9.0)	—	—
North Dakota	76.0	(3.3)	65.7	(8.7)	48.6	(10.3)	50.5	(8.8)	—	—
Ohio	80.2	(3.9)	68.5	(10.8)	60.9	(12.6)	59.0	(14.1)	—	—
Oklahoma	79.3	(3.6)	69.7	(9.8)	73.5	(9.7)	54.5	(12.3)	—	—
Oregon	83.4	(2.2)	77.6	(7.5)	68.9	(9.1)	63.4	(8.3)	81.5	(13.0)
Pennsylvania	76.5	(2.8)	63.8	(8.5)	62.4	(8.5)	53.5	(9.4)	—	—
Rhode Island	77.0	(3.5)	71.3	(9.6)	62.1	(9.4)	54.5	(10.6)	—	—
South Carolina	86.2	(2.4)	69.4	(7.7)	80.6	(5.8)	61.5	(8.4)	—	—
South Dakota	81.4	(2.8)	72.3	(8.1)	60.7	(10.4)	57.2	(9.0)	—	—
Tennessee	81.0	(2.6)	70.2	(6.2)	71.0	(6.1)	54.7	(10.0)	—	—
Texas	78.6	(3.5)	59.2	(10.5)	62.3	(9.3)	58.6	(13.3)	74.5	(7.8)
Utah	77.3	(3.5)	68.1	(11.9)	68.5	(13.3)	66.2	(10.3)	68.0	(9.8)
Vermont	80.1	(3.2)	61.1	(11.5)	66.2	(10.8)	48.3	(12.0)	—	—
Virginia	86.3	(2.9)	74.5	(13.5)	77.7	(9.3)	66.8	(12.8)	—	—
Washington	85.4	(2.5)	75.8	(10.6)	82.2	(9.6)	72.6	(9.8)	—	—
West Virginia	73.7	(2.8)	66.2	(6.1)	60.5	(6.5)	52.0	(7.8)	—	—
Wisconsin	80.6	(3.7)	67.1	(12.5)	68.2	(13.4)	50.6	(13.5)	—	—
Median	79.7		69.4		64.5		55.9		73.6	
Low	73.7		51.0		48.6		43.8		62.7	
High	87.5		81.9		83.6		75.1		94.1	
HP 2000 obj[¶] #16.12	≥85.0		≥80.0		≥75.0		≥70.0		≥80.0	

—Fewer than 50 respondents.

**Healthy People 2000* objective specifies within the previous 3 years, rather than 2 years.

[†] Confidence interval.

[§] Annual family income <$10,000.

[¶] *Healthy People 2000* objective.

BRFSS physical activity data are limited by the absence of information about work-related physical activity. The observed higher percentage of low-income persons who report that they do not engage in leisure-time physical activity might overstate the association between socioeconomic status and total physical activity if low-income persons tend to be more active during the work day. Data from one study indicate that including work and household activity may offset some of the disparities in socioeconomic status among men but not among women (*19*). The percentage of persons who reported to the NHIS in 1991 that they did not participate in leisure-time physical activity was lower than for BRFSS (all adults ages ≥18 years, 24% vs. 28.0%; adults with annual family income <$20,000, 32% vs. 37.3%; and adults ≥65 years of age, 29% vs. 42.3%) (*20*). These differences may reflect the different survey modes (telephone vs. in-person), as well as the longer list of activities about which respondents to NHIS are queried.

The observed median smoking prevalence for women of reproductive age exceeded the year 2000 target prevalence by a larger amount than for any other demographic subgroup. These data reflect the low target prevalence set for this group in light of tobacco-related health risks unique to women of reproductive age. First, cigarette smoking during pregnancy increases the risk to the fetus for low birth weight and premature birth, miscarriage, stillbirth, sudden infant death syndrome, and infant mortality (*21*). Second, in addition to the general risks for chronic disease associated with cigarette smoking, women of reproductive age who both smoke cigarettes and use oral contraceptives are at higher risk for myocardial infarction because of the synergistic effects of smoking and oral contraceptives (*22*).

In 1991, the BRFSS median prevalence of smokers who reported that they had quit for 1 or more days during the previous year (55.6%) is higher than the target rate expressed in year 2000 objective #3.6 (≥50%). Because the smoking-cessation questions in the 1991 BRFSS were changed, this difference should not be interpreted to mean that a majority of states have achieved this objective. The questionnaire changes may increase the 1-day quit rate estimate by approximately 18 percentage points.*

Hawaii was the only state with a self-reported safety belt use rate that exceeded the year 2000 objective. The five states with the highest safety belt use rates (Hawaii, Oregon, California, North Carolina, and New Mexico) have safety belt laws that allow for primary enforcement. With primary enforcement, a motor vehicle operator may be stopped by a law enforcement officer for an observed safety-belt-use law violation alone, rather than requiring that a vehicle first be stopped for some other violation (secondary enforcement). Primary enforcement laws are associated with greater and more rapid increases in safety belt use than are secondary enforcement laws (*23*).

The median percentages of women ages ≥50 years who reported having had a clinical breast exam and a mammmogram within the previous 2 years and of women ages ≥18 years with an intact uterine cervix who reported having had a Pap smear within the previous 2 years were both only a few percentage points below the year 2000 targets. However, when survey data are used to monitor progress toward year

*Baseline data for *Healthy People 2000* objective #3.6 were obtained from the Adult Use of Tobacco Survey, which uses questions similar to those in the NHIS. Before 1991, BRFSS used smoking cessation questions similar to those in the NHIS; in 1990, 1-day quit rates obtained from NHIS and BRFSS were similar (about 38%). In 1991, BRFSS simplified its questions on smoking cessation.

2000 objectives for medical screening procedures, self-reported data may yield biased results with regard to the time frame in which survey participants actually received a screening test. For example, in one study in which survey results were validated by using records from medical institutions, about 27% of women who reported having had a mammogram within the previous year had actually had the test more than a year before (*24*).

Data from this report indicate that states vary in their degree of progress toward behavior-related year 2000 health objectives. BRFSS data can help state health officials monitor progress and target programs toward greatest local need. To better enable states to monitor their progress toward BRFSS-measurable year 2000 health objectives, this report includes a template table (see Appendix 1). This table includes year 2000 objective values as well as the low, median, and high BRFSS values for 1991. The column of blank spaces at the right can be filled in with the values for a particular state.

State-specific BRFSS data will be reported annually in CDC *Surveillance Summaries* and will periodically include year 2000 health objective updates.

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APPENDIX 1. Year 2000 health objectives for the nation: state summary of BRFSS* data for 1991

State:_____

Healthy People 2000† objective§	Year 2000 target	BRFSS, 1991 low–median–high¶ (%)	State, 1991
Overweight (objective #2.3)			
Ages ≥18	≤20%	17.8–23.4–28.7	_____
Low-income (annual family income $<10,000) women ages ≥18 years	≤25%	19.0–30.3–42.3	_____
Black women ages ≥18 years	≤30%	25.0–39.0–47.6	_____
Hispanic women ages ≥18 years	≤25%	17.0–24.4–35.0	_____
Women with high blood pressure	≤41%	24.0–40.5–54.6	_____
Men with high blood pressure	≤35%	30.4–42.5–52.3	_____
No leisure-time physical activity (objective #1.5)			
Ages ≥18 years	≤15%	16.6–28.0–42.6	_____
Low income (annual family income <$20,000) ages ≥18 years	≤17%	22.1–37.3–52.5	_____
Ages ≥65 years	≤22%	23.3–42.3–56.3	_____
Cigarette smoking (objective #3.4)			
Ages ≥18 years	≤15%	14.3–23.0– 30.2	_____
≤ High school education ages ≥18 years	≤20%	21.4–28.1–34.3	_____
Blacks ages ≥18 years	≤18%	13.8–21.7–42.3	_____
Hispanics ages ≥18 years	≤18%	12.7–21.1–39.3	_____
Reproductive-aged (18–44 years) women	≤12%	14.2–24.6–30.4	_____
Quit 1+ days in previous year (objective #3.6)			
Ages ≥18 years	≥50%	42.0–55.6–60.9	_____

APPENDIX 1. Year 2000 health objectives for the nation: state summary of BRFSS* data for 1991 — Continued

State:_____

Healthy People 2000† objective§	Year 2000 target	BRFSS, 1991 low–median–high¶ (%)	State, 1991
Safety belt use (objective #9.12)			
Ages ≥18 years	≥85%	22.8–58.2–87.8	_____
Cholesterol screening within preceding 5 years (objective #15.14)			
Ages ≥18 years	≥75%	56.2–63.7–71.3	_____
Clinical breast examination and mammogram (ever had) (objective #16.11)			
Women ages ≥40 years	≥80%	55.5–69.7–83.1	_____
Low income (annual family income <$10,000) women ages ≥40 years	≥80%	36.0–53.8–70.8	_____
Less than high school education women ages ≥40 years	≥80%	40.5–57.4–77.4	_____
Women ages ≥70 years	≥80%	46.8–59.0–79.5	_____
Black women ages ≥40 years	≥80%	44.8–62.8–84.8	_____
Hispanic women ages ≥40 years	≥80%	51.6–60.4–68.8	_____
Clinical breast examination and mammogram (had within 2 years) (objective #16.11)			
Women ages ≥50 years	≥60%	45.6–57.8–82.8	_____
Low income (annual family income <$10,000) women ages ≥50 years	≥60%	27.3–41.4–76.2	_____
Less than high school education women ages ≥50 years	≥60%	30.3–45.4–80.7	_____
Women ages ≥70 years	≥60%	32.6–48.3–76.9	_____
Black women ages ≥50 years	≥60%	32.8–48.0–86.9	_____
Hispanic women ages ≥50 years	≥60%	41.6–55.5–56.7	_____

APPENDIX 1. Year 2000 health objectives for the nation: state summary of BRFSS* data for 1991 — Continued

State:_____

Healthy People 2000† objective§	Year 2000 target	BRFSS, 1991 low–median–high¶ (%)	State, 1991
Pap smear (ever had), women with intact uterine cervix (objective #16.12)			
Ages ≥18 years	≥95%	86.8–92.4– 95.3	_____
Low income (annual family income <$10,000) ages ≥18 years	≥95%	70.1–83.9– 95.3	_____
Less than high school education ages ≥18 years	≥95%	72.9–84.7– 94.9	_____
Ages ≥70 years	≥95%	72.2–84.7– 93.8	_____
Hispanics ages ≥18 years	≥95%	76.1–85.8–100.0	_____
Pap smear (had within preceding 2 years), women with intact uterine cervix (objective #16.12)			
Ages ≥18 years	≥85%	73.7–79.7– 87.5	_____
Low income (annual family income <$10,000) ages ≥18 years	≥80%	51.0–69.4– 81.9	_____
Less than high school education ages ≥18 years	≥75%	48.6–64.5– 83.6	_____
Ages ≥70 years	≥70%	43.8–55.9– 75.1	_____
Hispanics ages ≥18 years	≥80%	62.7–73.6– 94.1	_____

*Behavioral Risk Factor Surveillance System.
†Public Health Service. Healthy people 2000: national health promotion and disease prevention objectives — full report with commentary. Washington, DC: U.S. Department of Health and Human Services, 1991.
§In some cases, BRFSS definitions of objectives differ slightly from those in *Healthy People 2000*. See definitions in Methods Section for further explanation.
¶Among participating states.

APPENDIX 2.
Behavioral Risk Factor Surveillance System state coordinators, 1993

State	Coordinator	Telephone
Alabama	Laurie E. Eldridge, MPH	205-242-2848
Alaska	Patricia G. Owen	907-465-3140
Arizona	John R. Contreras, MPA	602-230-5945
Arkansas	John W. Senner, PhD	501-661-2497
California	Laura E. Lund, MA	916-327-7767
Colorado	Marilyn G. Leff, MSW, MSPH	303-692-2168
Connecticut	Mary L. Adams, MS, MPH	203-566-7867
Delaware	Fred N. Breukelman, CHES	302-739-4787
District of Columbia	Cynthia Y. Mitchell	202-727-4921
Florida	Doris McTague	904-488-2901
Georgia	Christopher W. Sellers, MD, MPH	404-894-4283
Hawaii	Valerie F. Ah Cook, MPH	808-832-5951
Idaho	Joanne E. Mitten, MHE	208-334-5933
Illinois	Bruce F. Steiner, MS	217-782-3702
Indiana	Raymond J. Guest, MPH	317-633-0268
Iowa	Susan K. Schoon	515-281-3763
Kentucky	Karen Bramblett	502-564-7112
Louisiana	Shirley C. Kirkconnell, MSW, MPH	504-568-7210
Maine	Randy H. Schwartz, MSPH	207-289-5180
Maryland	Alyse R. Weinstein, MPH	410-225-6807
Massachusetts	Ruth I. Lederman, MPH	617-727-2735
Michigan	Harry McGee	517-335-9081
Minnesota	Nagi Salem	612-623-5502
Mississippi	Ellen C. Jones, MS, CHES	601-960-7499
Missouri	Jeannette Jackson-Thompson, MSPH, PhD	314-876-3248
Montana	Patrick Smith	406-444-2555
Nebraska	Susan M. Huffman	402-471-3488
New Hampshire	Kathleen L. Zaso, RN, MPA	603-271-4549
New Jersey	Georgette K. Boeselager, MS	609-984-6138
New Mexico	Lydia Pendley, MHS	505-827-2380
New York	Colleen Baker	518-473-0622
North Carolina	Chanetta R. Washington, MPH	919-733-7081
North Dakota	Marge Maetzold, LN	701-224-2367
Ohio	Ellen M. Capwell, PhD, CHES	614-466-2144
Oklahoma	Neil E. Hann,MPH, CHES	405-271-5601
Oregon	Joyce A. Grant-Worley, MS	503-731-4028
Pennsylvania	Catherine J. Becker, MPH	717-787-5900
Rhode Island	Jay S. Buechner, PhD	401-277-2550
South Carolina	Marcia J. Lane, MPH	803-737-4120
South Dakota	Barbara L. Miller	605-773-3361
Tennessee	David L. Ridings	615-741-5246
Texas	Roger Diamond, MPH	512-458-7405
Utah	Rebecca P. Giles	801-538-6120
Vermont	Margaret M. Brozicevic	802-863-7298
Virginia	Ramona D. Schaeffer, MsEd	804-786-4065
Washington	Teresa J. Jennings, MPA	206-586-8729
West Virginia	Paul F. King	304-558-9100
Wisconsin	Eleanor Cautley, NMS	608-267-9545

3

Behavioral Risk Factor Surveillance System: Summary of Data for 1991

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Abstract

Problem/Condition: High-risk behaviors, such as smoking cigarettes and driving under the influence of alcohol, contribute heavily to morbidity and mortality from noninfectious disease and injury. Substantial variation exists among states in the prevalences of these behaviors.

Reporting Period: 1991.

Description of System: The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based random-digit-dialing telephone survey of noninstitutionalized adults (≥18 years of age). In 1991, 47 states and the District of Columbia participated in BRFSS. The system focuses on behaviors that are related to one or more of the 10 leading causes of death. In 1991, BRFSS also began collecting data on self-reported lack of health insurance.

Results: As in previous years, BRFSS data for 1991 indicate substantial state-to-state variation in the prevalence of risk factors such as chronic or binge alcohol consumption, sedentary lifestyle, and overweight. In addition to measures reported in previous years, the current report includes state prevalences of high blood cholesterol awareness (range = 13.5%–21.5%; median = 16.9%) and lack of health insurance (range = 7.2%–25.7%; median = 14.5%).

Interpretation: Because prevalence estimates vary considerably from state to state, state estimates may be preferable to national ones for use in planning programs.

Actions Taken: The BRFSS will continue to provide state-specific data about health behaviors to allow states to monitor trends that affect the burden of chronic diseases in the United States.

INTRODUCTION

From 1981 through 1983, 29 state health departments used random-digit dialing to conduct statewide point-in-time behavioral risk factor surveys. In 1984, the Behavioral Risk Factor Surveillance System (BRFSS) was established, and participating states (47 states and the District of Columbia) conducted monthly interviews with adults ≥18 years of age. This report summarizes selected data for 1991. BRFSS items related

*See Appendix 2 of the preceding report.

to year 2000 health objectives for the nation are described in the companion report (*1*).

METHODS

Sampling

Using random-digit-dialing telephone survey techniques, each state selects a probability sample of its noninstitutionalized adult population (≥18 years of age) with telephones. In 1991, 38 states used a multistage cluster-sampling design based on the Waksberg method (*2*). To meet individual needs, other states have chosen to use different sampling methods, such as simple random or stratified sample designs.

Questionnaire

The interviewing instrument consists of three parts: a) a series of core questions asked by all states, b) standardized modules of questions on selected topics that are developed by CDC and added at the discretion of each state, and c) questions developed and administered by a particular state to meet its own needs. Whenever feasible, questions used in national surveys such as the National Health and Nutrition Examination Surveys (NHANES) and the National Health Interview Survey (NHIS) have been adopted.

Data Processing and Analysis

When the interviewing cycle is completed each month, the data are sent to CDC for editing. In 1991, 36 states used a computer-assisted telephone interviewing (CATI) system, which permits direct entry of data into a computer file. CATI facilitates interviewer monitoring, data coding and entry, and quality-control procedures.

For the current study, the edited data were weighted to the age-, race-, and sex-specific population counts from the 1990 census in each state, as well as for the respondent's probability of selection (*3,4*). These weights are used to estimate the prevalence of risk factors and the use of medical screening tests for each state. SESUDAAN, a procedure for analyzing complex sample-survey data, is used to calculate the standard errors for the prevalence estimates (*5*). State sample sizes ranged from 1,178 to 3,417.

Definitions

Risk factors included in BRFSS were defined as follows:

- **Overweight** — 120% or more of ideal body weight, defined as the midvalue for a medium-frame person on the 1959 Metropolitan Life Insurance Company height/weight tables.
- **Sedentary lifestyle** — fewer than three 20-minute sessions of leisure-time physical activity per week.
- **Chronic drinking** — 60 or more drinks of alcohol during the past month.
- **Binge drinking** — consumption of five or more alcoholic beverages on at least one occasion during the past month.

- **Drinking and driving** — at least once in the past month, operation of a motor vehicle after drinking too much alcohol.
- **High blood pressure awareness** — respondents ever told by a health professional that their blood pressure is elevated.
- **High blood cholesterol awareness** — respondents ever told by a health professional that their blood cholesterol is elevated.
- **Lack of health insurance** — respondents not presently covered under any health-care plan.

The definitions for overweight and sedentary lifestyle behaviors differ somewhat from those presented in the companion article on objectives for the year 2000 (*1*). Although somewhat duplicative, these measures are included because they have been reported each year since the inception of BRFSS in 1984 and provide a means for states to monitor changes over time.

RESULTS

Overweight

The reported percentage of overweight persons ranged from 21.3% in Colorado to 34.1% in Michigan (median = 27.8%) (Table 1). The lowest prevalences were noted mostly in western states: New Mexico, 22.3%; Hawaii, 23.5%; Washington, 24.1%; Montana, 24.3%; and Utah, 24.4%.

Sedentary Lifestyle

The prevalence of sedentary lifestyle ranged from 46.6% in Oregon to 73.4% in Virginia (median = 56.5%) (Table 1). Of the five states with prevalence <50% (Colorado, Montana, New Hampshire, Oregon, and Utah), four were western states. Ohio, South Carolina, and Virginia reported prevalences >70.0%.

Chronic Drinking

The prevalence of chronic alcohol consumption varied more than fourfold, from 1.3% in South Carolina and Tennessee to 5.4% in New Hampshire (median = 3.4%) (Table 1). Five states reported a prevalence ≤2.0%: Georgia, Illinois, South Carolina, Tennessee, and West Virginia. Six states reported a prevalence ≥5.0%: Hawaii, Massachusetts, New Hampshire, Pennsylvania, Texas, and Wisconsin.

Binge Drinking

The prevalence of binge drinking varied more than fivefold, from a high of 23.3% in Wisconsin to a low of 4.6% in Tennessee (median = 14.4%) (Table 1). Several southern states reported low prevalences: North Carolina, 7.6%; Mississippi, 8.1%; and Georgia, 8.0%. Alaska, Massachusetts, Minnesota, Pennsylvania, and Wisconsin reported prevalences ≥20.0%.

TABLE 1. Selected prevalences among adults ages ≥18 years, in participating states — Behavioral Risk Factor Surveillance System, 1991

					Alcohol consumption											
	Overweight*		Sedentary lifestyle†		Chronic drinking§		Binge drinking¶		Drinking and driving**		High blood pressure awareness††		High blood cholesterol awareness§§		Lack of health insurance¶¶	
State	%	(95% CI***)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Alabama	30.1	±(2.4)	56.6	±(2.5)	3.2	±(0.9)	11.9	±(1.7)	2.6	±(0.8)	26.7	±(2.3)	16.2	±(1.8)	16.1	±(1.9)
Alaska	30.1	(3.3)	50.6	(3.7)	4.0	(1.5)	22.1	(3.2)	2.3	(0.9)	19.2	(2.9)	17.9	(2.9)	14.7	(2.6)
Arizona	24.5	(2.4)	60.3	(2.8)	3.5	(1.2)	12.7	(2.1)	2.0	(0.8)	18.9	(2.2)	16.7	(2.2)	18.2	(2.3)
Arkansas	27.9	(2.6)	64.5	(2.9)	2.4	(0.9)	12.0	(1.9)	2.6	(0.9)	22.9	(2.4)	15.9	(2.0)	19.0	(2.4)
California	25.7	(1.8)	53.8	(2.0)	4.0	(0.8)	16.9	(1.5)	2.2	(0.6)	20.2	(1.6)	16.6	(1.5)	19.0	(1.8)
Colorado	21.3	(2.1)	46.8	(2.6)	4.2	(1.2)	14.9	(2.1)	2.5	(0.8)	18.5	(2.0)	15.4	(1.8)	14.7	(2.2)
Connecticut	24.5	(2.3)	53.6	(2.6)	3.9	(1.0)	14.8	(1.9)	2.8	(0.9)	22.0	(2.2)	20.0	(2.2)	9.8	(1.8)
Delaware	32.3	(2.7)	59.0	(2.9)	3.9	(1.2)	14.7	(2.2)	2.6	(1.0)	21.9	(2.4)	19.2	(2.2)	10.0	(1.8)
District of Columbia	30.8	(2.8)	63.3	(3.0)	2.8	(1.2)	8.6	(1.8)	1.7	(0.9)	20.2	(2.5)	13.6	(2.1)	15.1	(2.2)
Florida	26.4	(2.2)	51.8	(2.3)	3.8	(1.0)	12.8	(1.7)	2.8	(0.9)	20.2	(2.0)	17.9	(1.8)	18.9	(2.1)
Georgia	25.8	(2.3)	67.3	(2.5)	1.9	(0.7)	8.0	(1.5)	0.9	(0.5)	20.8	(2.1)	14.0	(1.7)	14.8	(1.9)
Hawaii	23.5	(2.1)	53.4	(2.5)	5.1	(1.1)	16.0	(1.8)	3.6	(1.0)	21.2	(2.0)	19.4	(2.0)	7.2	(1.3)
Idaho	26.5	(2.2)	55.5	(2.7)	2.2	(0.7)	8.9	(1.6)	1.3	(0.6)	19.3	(2.0)	15.9	(1.8)	14.6	(1.9)
Illinois	27.7	(2.2)	65.0	(2.4)	2.0	(0.6)	11.7	(1.6)	1.5	(0.5)	22.2	(2.0)	16.9	(1.8)	12.0	(1.7)
Indiana	31.0	(2.2)	60.6	(2.4)	3.4	(0.9)	14.3	(1.8)	3.0	(0.9)	24.4	(1.9)	16.8	(1.7)	10.5	(1.6)
Iowa	29.6	(2.5)	60.9	(2.7)	3.5	(1.1)	13.3	(1.9)	2.7	(0.9)	20.5	(2.1)	15.4	(1.8)	8.3	(1.6)
Kentucky	30.6	(2.4)	67.6	(2.4)	3.3	(1.0)	12.0	(1.8)	1.9	(0.7)	22.4	(2.0)	17.7	(1.8)	18.5	(2.1)
Louisiana	31.7	(2.6)	60.6	(2.8)	4.5	(1.2)	17.7	(2.2)	3.5	(1.0)	20.9	(2.2)	15.0	(1.9)	21.7	(2.4)
Maine	27.7	(2.8)	59.9	(2.9)	3.4	(1.1)	10.3	(1.9)	0.8	(0.5)	21.6	(2.4)	17.3	(2.3)	13.5	(2.2)
Maryland	24.7	(2.4)	56.9	(2.7)	3.1	(1.1)	10.2	(1.9)	1.0	(0.6)	19.9	(2.1)	16.5	(2.0)	10.6	(1.7)
Massachusetts	25.2	(2.5)	52.6	(2.9)	5.1	(1.3)	20.0	(2.3)	2.5	(0.8)	21.6	(2.4)	18.2	(2.2)	9.3	(1.8)
Michigan	34.1	(2.1)	56.4	(2.3)	4.9	(1.1)	18.3	(1.9)	4.2	(0.9)	23.8	(1.9)	21.5	(1.8)	11.5	(1.6)
Minnesota	27.5	(1.6)	53.8	(1.9)	3.6	(0.7)	20.7	(1.6)	3.7	(0.8)	19.8	(1.4)	17.2	(1.4)	9.4	(1.1)
Mississippi	30.9	(2.6)	67.3	(2.7)	2.8	(1.0)	8.1	(1.6)	2.4	(1.0)	29.8	(2.6)	14.7	(1.9)	20.4	(2.5)
Missouri	28.0	(2.5)	58.3	(2.8)	4.4	(1.3)	14.6	(2.1)	2.4	(0.9)	23.8	(2.3)	16.5	(2.0)	15.7	(2.2)
Montana	24.3	(2.6)	49.5	(3.2)	3.8	(1.2)	19.9	(2.6)	4.1	(1.4)	18.5	(2.4)	17.1	(2.3)	16.8	(2.5)
Nebraska	28.7	(2.7)	54.0	(3.0)	2.9	(1.1)	17.1	(2.4)	4.8	(1.5)	23.3	(2.4)	14.8	(2.0)	10.9	(2.1)
New Hampshire	25.0	(2.4)	48.0	(2.8)	5.4	(1.4)	19.6	(2.4)	3.2	(1.1)	19.6	(2.3)	20.9	(2.3)	10.7	(1.8)
New Jersey	25.3	(2.5)	56.0	(2.9)	3.9	(1.2)	9.7	(1.8)	1.1	(0.6)	21.1	(2.4)	17.9	(2.2)	8.1	(1.7)
New Mexico	22.3	(2.8)	53.8	(3.0)	2.6	(1.0)	10.8	(2.0)	2.1	(1.1)	14.8	(2.4)	13.5	(2.1)	25.7	(2.8)
New York	28.0	(2.3)	58.4	(2.5)	2.5	(0.8)	11.6	(1.7)	1.9	(0.7)	21.5	(2.1)	16.8	(1.9)	15.3	(2.0)
North Carolina	27.5	(2.2)	61.0	(2.6)	2.9	(0.8)	7.6	(1.4)	1.2	(0.5)	18.1	(1.9)	16.5	(1.8)	16.0	(2.0)
North Dakota	28.6	(2.2)	55.0	(2.7)	2.5	(0.8)	16.5	(2.0)	3.5	(1.1)	18.6	(1.9)	16.7	(1.9)	13.2	(2.0)
Ohio	28.1	(2.8)	70.3	(2.9)	3.4	(1.4)	9.3	(1.9)	1.8	(1.2)	18.9	(2.4)	15.1	(2.2)	10.6	(1.9)
Oklahoma	28.5	(2.5)	61.0	(2.8)	2.3	(0.8)	9.6	(1.8)	1.3	(0.6)	24.3	(2.3)	17.2	(2.0)	19.7	(2.3)

TABLE 1. Selected prevalences among adults ages ≥18 years, in participating states — Behavioral Risk Factor Surveillance System, 1991—Continued

	Overweight*		Sedentary lifestyle†		Alcohol consumption: Chronic drinking§		Alcohol consumption: Binge drinking¶		Alcohol consumption: Drinking and driving**		High blood pressure awareness††		High blood cholesterol awareness§§		Lack of health insurance¶¶	
State	%	(95% CI***)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Oregon	27.1	(1.6)	46.6	(1.9)	3.6	(0.7)	16.4	(1.5)	2.3	(0.6)	19.5	(1.4)	17.6	(1.4)	15.6	(1.5)
Pennsylvania	32.5	(2.1)	55.0	(2.2)	5.1	(1.0)	20.0	(1.8)	3.4	(0.8)	23.6	(1.9)	17.5	(1.6)	10.6	(1.4)
Rhode Island	25.0	(2.3)	54.8	(2.6)	4.8	(1.2)	16.9	(2.0)	3.2	(1.0)	21.9	(2.1)	20.0	(2.1)	8.5	(1.5)
South Carolina	29.1	(2.3)	70.6	(2.5)	1.3	(0.6)	9.5	(1.7)	2.0	(0.8)	23.8	(2.1)	17.2	(2.0)	18.3	(2.1)
South Dakota	28.8	(2.3)	57.3	(2.6)	2.7	(0.9)	17.8	(2.1)	3.7	(1.0)	18.7	(2.0)	15.7	(1.9)	9.7	(1.5)
Tennessee	28.8	(1.9)	64.4	(2.1)	1.3	(0.5)	4.6	(0.9)	1.0	(0.5)	23.0	(1.7)	15.5	(1.4)	15.8	(1.6)
Texas	29.5	(2.6)	54.1	(3.0)	5.0	(1.3)	19.0	(2.5)	4.6	(1.3)	20.6	(2.4)	15.8	(2.0)	21.5	(2.7)
Utah	24.4	(2.2)	47.5	(2.6)	3.3	(1.0)	9.0	(1.5)	1.4	(0.6)	19.6	(1.9)	14.4	(1.8)	11.5	(1.7)
Vermont	26.7	(2.5)	52.6	(3.0)	3.5	(1.3)	16.1	(2.1)	2.8	(1.1)	22.1	(2.1)	18.8	(2.1)	14.3	(2.1)
Virginia	22.3	(2.3)	73.4	(2.6)	2.8	(0.9)	14.8	(2.1)	3.5	(1.2)	15.5	(2.0)	17.1	(2.1)	12.1	(1.8)
Washington	24.1	(2.0)	51.9	(2.3)	3.3	(0.9)	15.2	(1.7)	2.7	(0.7)	19.0	(1.8)	18.1	(1.8)	13.0	(1.6)
West Virginia	32.1	(2.1)	66.7	(2.1)	1.8	(0.6)	7.2	(1.2)	0.7	(0.3)	24.4	(1.8)	19.5	(1.7)	17.4	(1.8)
Wisconsin	29.2	(2.7)	53.8	(3.0)	5.0	(1.5)	23.3	(2.6)	6.3	(1.5)	21.9	(2.4)	17.7	(2.3)	8.9	(1.8)
Median	27.8		56.5		3.4		14.4		2.5		21.0		16.9		14.5	
Low	21.3		46.6		1.3		4.6		0.7		14.8		13.5		7.2	
High	34.1		73.4		5.4		23.3		6.3		29.8		21.5		25.7	

* 120% or more of ideal body weight, defined as the midvalue of the medium-frame person on the 1959 Metropolitan Life Insurance Company height/weight table.
† Fewer than three 20-minute sessions of leisure-time physical activity per week.
§ 60 or more drinks during the past month.
¶ Consumption of five or more alcoholic beverages on at least one occasion during the previous month.
** Operation of a motor vehicle after drinking too much alcohol at least once in the previous month.
†† Respondents ever told by a health professional that their blood pressure is elevated.
§§ Respondents ever told by a health professional that their blood cholesterol is elevated.
¶¶ Not presently covered under any health-care plan.
*** Confidence interval.

Drinking and Driving

The prevalence of drinking and driving varied from 0.7% in West Virginia to 6.3% in Wisconsin (median = 2.5%) (Table 1). Five states reported values of ≤1.0%: Georgia, Maine, Maryland, South Carolina, and Tennessee. Wisconsin was the only state that reported a prevalence above 5.0%.

High Blood Pressure Awareness

The percentage of adults who were aware that they had high blood pressure varied twofold, from 14.8% in New Mexico to 29.8% in Mississippi (median = 21.0%) (Table 1). Alabama and Mississippi were the only states with prevalences above 25.0%. Only New Mexico and Virginia reported prevalences below 18.0%.

High Blood Cholesterol Awareness

The percentage of adults who were aware that they had elevated blood cholesterol ranged from 13.5% in New Mexico to 21.5% in Michigan (median = 16.9%) (Table 1). In four states, the prevalence was ≥20.0%: Connecticut, Michigan, New Hampshire, and Rhode Island. Prevalences were <15.0% in the District of Columbia, Georgia, Louisiana, Mississippi, Nebraska, New Mexico, and Utah.

Lack of Health Insurance

Lack of health insurance varied more than threefold, from 25.7% in New Mexico to 7.2% in Hawaii (median = 14.5%) (Table 1). Four states reported prevalences above 20%—Louisiana, Mississippi, New Mexico, and Texas. Five states reported prevalences below 9%—Hawaii, Iowa, New Jersey, Rhode Island, and Wisconsin.

DISCUSSION

For several of the variables reported in this article, state-specific prevalence estimates for years before 1991 have been published previously. These variables include overweight, sedentary lifestyle, chronic drinking, binge drinking, and drinking and driving (*6–9*). State-specific BRFSS data on high blood pressure awareness, high blood cholesterol awareness, and lack of health insurance have not been previously published; 1991 was the first year in which BRFSS data on lack of health insurance were collected.

The 1991 median prevalence of chronic alcohol consumption (3.4%) is similar to the 1989 (3.7%) and 1990 (3.2%) medians but substantially lower than the 1987 (5.6%) and 1988 (5.8%) medians. The abrupt change from 1988 to 1989 should be interpreted cautiously because of a change in questionnaire wording. Before 1989, respondents were asked separate questions about their consumption of three types of alcohol—beer, wine, and liquor. Beginning in 1989, these questions were combined into a single question about consumption of alcoholic beverages. In an analogous case involving food consumption, a change from a long list of single-item questions to a shorter list of grouped-item questions decreased estimates of self-reported consumption (*10*). Thus, changes in the BRFSS questionnaire from single-item questions to a single grouped-item question may have contributed to observed decreases in self-reported alcohol consumption.

The 1991 BRFSS median prevalence of high blood pressure awareness (21.0%) is similar to prevalence estimates obtained from men (18.3%) and women (20.3%) in a national household survey sponsored by the National Heart, Lung, and Blood Institute in September 1989 (*11*). These estimates, which are based on self-reported high blood pressure, are lower than a provisional estimate of 26% among persons 18–74 years of age that was obtained by direct blood pressure measurements in the 1988–1991 NHANES III (National Institutes of Health, unpublished data).

Variation among states in the percentage of persons who reported they had high blood pressure may be attributable to true differences in population prevalence, differences in the percentage of true hypertensives who are aware of their condition, or a combination of the two. Because more than 90% of adults in all BRFSS states report that they had their blood pressure checked within the previous 2 years (data not shown), lack of awareness probably does not account for a large portion of the variation among states. Thus, state-to-state variation in awareness of high blood pressure can be expected to approximate true population prevalence differences.

The BRFSS median percentage of persons who were aware that they had elevated blood cholesterol (16.9% in 1991) has increased steadily from 8.0% in 1987 (data not shown) but remains less than half the estimated percentage of adults who are candidates for medical advice to reduce their serum cholesterol (36%) (*12*). Possible reasons for this discrepancy include a) patients may not seek preventive care, b) physicians may not offer cholesterol screening to patients who do seek preventive care, and c) patients who undergo appropriate screening may not recall physician advice to take steps to reduce serum cholesterol. One recent study indicates that about 40% of adults who had seen a physician within the previous 2 years for preventive care reported never being screened for high blood cholesterol (*13*).

Whereas state-to-state variation in the prevalence of high blood pressure awareness probably reflects variation in the true population prevalence of high blood pressure (see above), state-to-state variation in high blood cholesterol awareness is more likely a result of variation in screening rates. This is true for two reasons. First, since the prevalence of high blood cholesterol varies according to race much less than does the prevalence of high blood pressure, the demographic makeup of a state is unlikely to have a substantial effect on its true prevalence of hypercholesterolemia. Second, state-to-state variation in the percentage of persons who have undergone recent screening is much greater for blood cholesterol (1991 range = 56.2%–71.3%) (*1*) than for blood pressure. Screening rates should be taken into consideration when state variations in rates of cholesterol awareness are interpreted.

BRFSS data indicate substantial state-to-state variation in the percentage of persons who lack health insurance. The median BRFSS prevalence for 1991 (14.5%) is similar to the 1989 estimate for lack of insurance among the noninstitutionalized adult population reported in NHIS (13.9%) (*14*). BRFSS data on state-specific percentages of adults without health insurance are similar to those reported by the U.S. Government Accounting Office (GAO) (*15*). In the GAO report, states with lower rates of employer-based private coverage tended to have a higher proportion of their populations not covered by health insurance.

BRFSS data will be useful for monitoring trends in health insurance coverage and evaluating state and federal programs intended to reduce the number of persons who lack coverage. BRFSS will also be useful for determining how persons without

health-care coverage differ from those who have coverage with respect to health-related behaviors and use of medical screening tests.

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State and Territorial Epidemiologists and Laboratory Directors are gratefully acknowledged for their contributions to this report. The epidemiologists listed below were in the positions shown as of August 11, 1993, and the laboratory directors listed below were in the positions shown as of August 1993.

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